

Serial No.: 10/775,302

**BEST AVAILABLE COPY****REMARKS**

Claims 1, 2, 4, 5 and 7-30 are pending in this application upon entry of this amendment. Claims 1, 7 and 28 have been amended herein, and claims 3 and 6 have been canceled. Favorable reconsideration of the application is respectfully requested.

Claim 1 has been amended to include the features of claim 3 and aspects of claim 6, now canceled. As amended, however, claim 1 refers to at least 10 longitudinal Fabry-Perot internal modes (rather than 5 modes as in original claim 6). In addition, claim 1 has been amended to refer to the reflective feedback  $r_{FB}$  being greater than 5 (rather than 1 as in original claim 1). Claim 7 has been amended to depend from claim 1. No new matter has been added.

**1. Allowable Subject Matter**

Applicants acknowledge with appreciation the indicated allowability of several claims, namely claims 7, 12-15, 21 and 22, subject to being rewritten in independent form.

**2. Rejections of Claims 1-30 Under 35 USC §102(e) and §103(a)**

Claims 1, 4, 5, 6, 8, 9, 11, 16-20 and 23-29 stand rejected under 35 USC §102(e) based on *Yoshida et al.* Remaining claims 2, 3, 10 and 30 stand rejected under 35 USC §103(a) based on *Yoshida et al.* alone or in combination with *Ziari et al.* or *Stolen*. Applicants respectfully request withdrawal of the rejections for at least the following reasons.

The Office Action of December 19, 2005 indicates that claim 7 would be allowable as independent claim. The subject of claim 7 is the number of *Fabry-Perot* modes and it specifies that 20-40 modes are accommodated. Preceding original claim

**BEST AVAILABLE COPY**

Serial No.: 10/775,302

6 also concerns the number of *Fabry-Perot* modes, but specifies at least 5 of them to be accommodated.

*Yoshida et al.* and the other cited art, viewed alone or in combination, lacks clear teaching, i.e. an advice or instruction for technical action, leading to a laser source according to the present invention as recited in amended claims 1 and 28. Specifically *Yoshida et al.* discloses many different values of many parameters for a laser source which, if combined, lead to nearly any imaginable (or unimaginable) end result. Many of these end results will be meaningless or simply unworkable. *Yoshida et al.* fails to disclose those meaningful ranges of the given parameters that result in the present invention.

To better specify these meaningful ranges of the parameters and their relationship according to the present invention, claim 1 was amended in four points. Amended claim 1 now is limited newly, i.e. in addition to the originally claimed features, in:

(1) The minimum number of the relative feedback  $r_{FB} = k * R_{FBG} / R_F$  was raised to "5" (from "1"). This distinguishes the present invention better from *Yoshida et al.*, which gives a maximum number of 3.97. (The Examiner assumed in his calculation that the coupling coefficient  $C$  corresponds to  $k$  of the present application and thus derived from Table III of D1 a value of  $r_{FB} = 4.67$ . But the Examiner overlooked that  $k$  is the square of  $C$ , i. e.,  $k = C^2$ , which results in a smaller value of  $r_{FB} = 3.97$  taught by *Yoshida et al.*)

(2) The fact that both the length of the guide means and the reflectivity  $R_{FBG}$  and their relation determine the number of internal *Fabry-Perot* modes was clearly expressed. That the laser source according to the invention is a multimode device is addressed on p.2, line 11; on p.3, line 12, when discussing prior art; on p.4, third paragraph; and on p. 13, last paragraph, when describing Fig. 9.

(3) The minimum number of *Fabry-Perot* modes to reach the desired effect was raised from "5", as given in original claim 6, to "10". As Examiner correctly

**BEST AVAILABLE COPY**

Serial No.: 10/775,302

states, Yoshida et al. does not disclose the range between 5 and 10, but one may argue that Yoshida et al.'s Fig. 10 shows more than 5 modes (but the question remains how many?).

(4) The feature of claim 3, i.e. that the whole laser diode is uncooled, i.e. has no active cooling element, as heretofore believed necessary for this kind of high power laser sources, was entered into amended claim 1. The reason for entering this limitation is twofold: It is a significant feature of the invention, discussed on p. 3, second paragraph and other places of the specification, and it further distinguishes the present invention from the prior art cited, both *Yoshida et al.*, which does not address or discuss an uncooled laser source, and *Ziari et al.*, discussed below.

The Examiner states on page 4 of the Office Action, last paragraph, that Fig. 3A of *Ziari et al.* shows a laser without cooling. This figure is a very schematic view of a laser source without any details; several parts of the laser module are not shown. It seems rather far fetched to state that *Ziari et al.* shows a laser source without an active cooling element, specifically because the description refers to a controlled cooling element on col.11, line 55 et seq. Except for this mentioning, temperature control or cooling is not addressed in the whole description of *Ziari et al.*

For the above reasons, amended claim 1 is believed to be allowable.

Claim 28 was amended along the same lines outlined above except for the aspect of no active cooling. For the above reasons, *mutatis mutandis*, amended claim 28 is also believed to be allowable.

Claims 2, 4, 5, 8-11, 16-27, 29, and 30, rejected or objected to in the above-referenced Office Action, now depend on presumably allowable independent claims 1 and 28 and are therefore believed to be allowable, too.

Serial No.: 10/775,302

**BEST AVAILABLE COPY****3. Conclusion**

Accordingly, all claims 1, 2, 4, 5 and 7-30 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

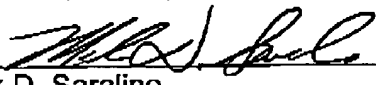
Applicants note that the reference "Frequency Locking Using Cascaded Fibre Gratings in OFDM Systems" by C.S. Park was not considered by the Examiner along with the other references cited in the IDS filed on February 10, 2004. Applicants believe this may have been as a result of the Examiner not receiving a copy of the reference. Accordingly, enclosed herewith is a copy of the reference along with a PTO-1449 form listing the reference. Consideration of the reference is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

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